

AMENDMENTS TO THE SPECIFICATION

Please note that the application specification paragraphs were re-numbered when the application published. **The following numbers correspond to Applicants' originally filed specification of February 18, 2004.**

Please replace Paragraph [0024] with the following paragraph rewritten in amendment format:

[0024] The composition also comprises a curing agent at a concentration from about 0.5 to about 20 parts per 100 parts by weight of the fluoroelastomer particulate. In this regard, the curing agent accelerates crosslinking of the fluoroelastomer as the admixture cures to provide a continuous elastomer phase and also to release hydrogen ions into the curing admixture. In one embodiment, the composition comprises an amine curing agent providing a —C=N— group. In this regard, n,n'-dicinnamylidene-1,6-hexene N,N'-dicinnamylidene-1,6-hexane is an especially preferred curing agent for bonding fluoroelastomer with fluorinated crosslinking sites where the cured elastomer will be used in high temperature applications. In some embodiments, hexamethylene diamine carbamate or ethylene diamine carbamate are amines functioning as the curing agent. Mixtures of any of n,n'-dicinnamylidene-1,6-hexene N,N'-dicinnamylidene-1,6-hexane, hexamethylene diamine carbamate and ethylene diamine carbamate are used in yet other embodiments.

Please replace Paragraph [0027] with the following paragraph rewritten in amendment format:

[0027] In one embodiment, the composition comprises metallic oxide particulates with an amine curing agent such as n,n'-dicinnamylidene-1,6-hexene N,N'-dicinnamylidene-1,6-hexane. In one embodiment, the metallic oxide particulate is achieved with MgO in from about 1 to about 30 parts per 100 parts by weight of the fluoroelastomer particulate. In one embodiment where n,n'-dicinnamylidene-1,6-hexene N,N'-dicinnamylidene-1,6-hexane is in about 8 parts per

100 parts by weight of the fluoroelastomer particulate, MgO is in about 20 parts per 100 parts by weight of the fluoroelastomer particulate.

Please replace Paragraph [0032] with the following paragraph rewritten in amendment format:

[0032] Wax particulate of from about ~~[[.05]]~~ 0.05 parts to about 5 parts per 100 parts by weight of the fluoroelastomer particulate is used in some embodiments to improve flow properties in mixing the admixture into a solvent for application to a substrate (such as metal or graphite) and to enhance particulate intermixing during mechanical agitation of the admixture. Examples of wax particulate include paraffin, camaubra wax, polypropylene wax and combinations thereof.

Please replace Paragraph [0033] with the following paragraph rewritten in amendment format:

[0033] In one embodiment, the composition is fluidized with solvent sufficient to provide an admixture viscosity from about 10,000 centipoises to about 500,000 centipoises. The solvent is preferably selected from the group consisting of ketones, alcohols, ester solvents, and combinations thereof. Preferred solvents include those selected from the group consisting of methyl isobutyl ketone, ethyl acetate, cellosolve acetate, sorbitol acetate, ~~3,5,5-trimethyl-3-cyclohexenene-1-one~~ 3,5,5-trimethyl-cyclohexene-1-one, ~~cyclohexene-1-one~~ cyclohexenone, butyl cellulose acetate, methanol, ethanol, isopropyl alcohol, and mixtures thereof. In one embodiment, the solvent comprises a mixture of about 20 weight percent ~~3,5,5-trimethyl-3-cyclohexenene-1-one~~ 3,5,5-trimethyl-cyclohexene-1-one, about 20 weight percent ~~cyclohexene-1-one~~ cyclohexenone, and about 60 weight percent butyl cellulose acetate.

Please replace Paragraph [0034](d) with the following paragraph rewritten in amendment format:

(d) ~~n,n'-dicinnamylidene-1,6-hexene~~ N,N'-dicinnamylidene-1,6-hexane at a level of from about 0.5 to about 20 parts per 100 parts by weight of the fluoroelastomer particulate;

Please replace Paragraph [0034](g) with the following paragraph rewritten in amendment format:

(g) solvent sufficient to provide an admixture viscosity from about 10,000 centipoises to about 500,000 centipoises, where the solvent is a blend of about 20 weight percent ~~3,5,5-trimethyl-3-cyclohexene-1-one~~ 3,5,5-trimethyl-cyclohexene-1-one, about 20 weight percent ~~cyclohexene-1-one~~ cyclohexenone, and about 60 weight percent butyl cellulose acetate.

Please replace Paragraph [0044] with the following paragraph rewritten in amendment format:

[0044] Turning now to process considerations related to the production of the new materials and their use, fluoroelastomer particulate, inert particulate, metallic oxide reduction-agent particulate, wax, and, optionally, PTFE particulate and/or microspheres as previously described herein are admixed and conveyed to a mixer, such as a ~~Banbury~~ Banbury mixer, for mixing into pliable agglomerate. In one embodiment, the agglomerate is then fragmented into about 1 gram macro particulate. The macro particulate is then dissolved into an appropriate solvent (previously described herein) to form a stored admixture elastomer precursor solution having a desired viscosity. The selected curing agent (in one embodiment in alcohol solution) is admixed into the elastomer precursor solution shortly before use (preferably within 48 hours) to make the admixture elastomer precursor for application to a forming substrate.

Please replace Paragraph [0047] with the following paragraph rewritten in amendment format:

[0047] Viton™ B FKM polymer is used to prepare gasket samples for a bipolar plate in a fuel cell. The composition is listed as below. A ~~Banbury~~ Banbury mixer is used to combine the following ingredients. The agglomerate is then blended by a mill into the sheet form compound and then cut into about 1 g chunks. A coating is prepared by dissolving and mixing the pieces into butyl cellulose acetate solvent by the weight ratio of 3:5 (solids vs. solvent). ~~N,N'-dicinnamylidene-1,6-hexene~~ N,N'-dicinnamylidene-1,6-hexane curing agent is mixed in at a weight ratio of 1:23 over the above polymer solution just before applying the coating. A viscosity is measured on the final coating at around 100,000 centipoises by Brookfield viscometer. Screen printing is used to apply the coating selectively onto a graphite substrate to make a gasket for a fuel cell. The screen printed part then is dried and cured, at 90° C and 390° C respectively, each for 15 minutes.